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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* YOSHIO AKIYAMA, HIROAKI TOKUDA,  
KAZUHISA INNAMI, SHUICHI KOSHIO, and MASAAKI SASAKI

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Appeal No. 2009-013190  
Application 10/521,588  
Technology Center 1700

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Decided: March 30, 2010

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Before EDWARD C. KIMLIN, CHUNG K. PAK, and PETER F. KRATZ,  
*Administrative Patent Judges.*

PAK, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 1 through 3 and 5 through 12, all of the claims pending in the above-identified application. We have jurisdiction under 35 U.S.C. §§ 6 and 134.<sup>1</sup>

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<sup>1</sup> An oral hearing was held on March 16, 2010.

## STATEMENT OF THE CASE

The subject matter on appeal is directed to:

[A] blow molded article[, such as a container,] obtained by a direct-blow molding process and including a bottom portion, a cylindrical body portion arranged above the bottom portion, and a cylindrical mouth portion arranged above the body portion, characterized in that the molded article includes at least three pinch-off lines caused by mold-pieces of a split bottom-mold, in a diverging manner from a center of a bottom face at the bottom portion. [(See Spec. 3, para. 0008.)]

Details of the appealed subject matter are recited in representative claims 1 and 12 reproduced from the Claims Appendix to the Appeal Brief (“App. Br.”) filed November 12, 2008 as shown below:

1. A blow molded article obtained by a direct-blow molding process and including a bottom portion, a cylindrical body portion arranged above the bottom portion, and a cylindrical mouth portion arranged above the body portion,

wherein said molded article includes at least three pinch-off lines caused by mold-pieces of a split bottom-mold, in a diverging manner from a center of a bottom face at said bottom portion, and

wherein said pinch-off lines are formed within a circle which is concentric with said bottom face and which has a diameter equal to or less than  $\pi D_p/n$ , wherein  $\pi$  represents a circular constant,  $D_p$  represents an outer diameter of a parison, and  $n$  represents the number of the pinch-off lines.

12. The blow molded article according to claim 6, wherein said laminated structure is constituted to include, at least, an outer layer, and an inner layer formed of a synthetic resin having a low compatibility with a synthetic resin forming said outer layer.

As evidence of unpatentability of the claimed subject matter, the Examiner relies on the following prior art references at page 4 of the Answer. (“Ans.”) dated March 5, 2009:

Butcher	US 3,663,522	May 16, 1972
Schmidt	US 2002/0061371 A1	May 23, 2002

Appellants request review of the following grounds of rejection set forth in the Answer:

- 1) Claim 12 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as their invention;
- 2) Claims 1 through 3 and 5 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Butcher<sup>2</sup>; and
- 3) Claims 6 through 12 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Butcher and Schmidt.

Appellants traverse the Examiner’s rejections. Appellants contend that one of ordinary skill in the art would understand the scope of the relative expression “low compatibility” recited in claim 12 in view of paragraph 0070 of the Specification and, therefore, the Examiner has not shown that the claimed relative expression is indefinite within the meaning of 35 U.S.C. § 112, second paragraph (App. Br. 8-9 and Reply Brief (“Reply Br.”) filed March 20, 2009, 1-4). Appellants also contend that Butcher does not render the subject matter defined by claims 1 through 3 and 5 anticipated

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<sup>2</sup> Appellants have presented substantive arguments directed to the limitations of claims 1 and 3 consistent with 37 C.F.R. § 41.37(c)(1)(vii). Therefore, pursuant to 37 C.F.R. § 41.37(c)(1)(vii), we select claims 1 and 3 to decide the propriety of the Examiner’s § 102(b) rejection set forth in the Answer.

within the meaning of 35 U.S.C. § 102(b) since it does not expressly or inherently teach at least three pinch-off lines formed within a circle which “has a diameter equal to or less than  $\pi D_p/n$ , wherein  $\pi$  represents a circular constant,  $D_p$  represents an outer diameter of a parison, and  $n$  represents the number of the pinch-off lines” as recited in claim 1 (App. Br. 9-15 and Reply Br. 4-6). Appellants further contend that the Examiner’s § 103(a) rejection based on the combined disclosures of Butcher and Schmidt is flawed for the same reason advanced in connection with the Examiner’s § 102(b) rejection of claim 1 (App. Br. 15).

#### ISSUES AND CONCLUSIONS

The first dispositive question is: Is the scope of the relative expression “low compatibility” recited in claim 12 indefinite, when viewed in light of paragraph 0070 of the Specification? On this record, we answer this question in the negative.

The second dispositive question is: Does Butcher expressly or inherently teach at least three pinch-off lines formed within a circle which “has a diameter equal to or less than  $\pi D_p/n$ , wherein  $\pi$  represents a [known] circular constant,  $D_p$  represents an outer diameter of a parison, and  $n$  represents the number of the pinch-off lines” as recited in claims 1 and 3? On this record, we answer this question in the affirmative.

#### RELEVANT FACTUAL FINDINGS

The following relevant factual findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office):

1. Butcher exemplifies extruding a polypropylene into tubing of 2.5 outside diameters with a wall thickness of 0.4 centimeter, cutting the tubing into about 5-inch lengths to form a parison 54, reheating and then sealing the bottom of the parison 54 with a three-way pinch-off using three alternate tuck-in members 17, 18, and 19 and three blade carrying jaw members 10, 11, and 12, moving a stomper foot 48 and the pinch-off means down to stretch the parison 54 and blowing the parison 54 to form a bottle having an oval shaped bottom measuring about 7 centimeters by 5 centimeters, which has the fusion lines (pinch-off lines) extending radially for 1.2 centimeters, thus defining a diameter of 2.4 centimeters which is slightly less than the original outside diameter of the parison 54 (col. 4, l. 11 to col. 5, l. 16, col. 3, ll. 3-30, Fig. 2 and Fig. 4).
2. Butcher's Figure 4 illustrates such oval shaped bottom having three fusion lines (pinch-off lines) as shown below:

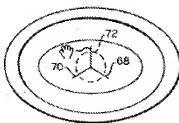


FIG. 4

3. Butcher teaches (col. 4, ll. 28-33) that:

It is to be noted that that the effect of tuck-in blades is to *restrict the total length of the fusion lines to a comparatively small value as compared with the total area of the bottom of the finished container.* The area encompassed by stomper foot 48 is denoted by circular line 72.

4. Butcher teaches (col. 2, ll. 29-40) that:

It is an object of this invention to form a blow molded article which is *more resistant to failure in the pinch-off area*. It is a further object of this invention to provide a multiple direction *pinch-off with shorter fusion lines*.

In accordance with this invention a multiple direction pinch-off device for sealing a hollow parison having a plurality of blade-carrying jaw members which reciprocate radially is provided with a plurality of tuck-in members alternating between said jaw members and displaced axially below said jaw members, said tuck-in members serving to fold in the walls of said parison. [(Emphasis added.)]

5. Appellants do not question that the blow molded bottle taught by Butcher has a bottom portion, a cylindrical body portion arranged above the bottom portion, and a cylindrical mouth portion arranged above the body portion (App. Br. 9-15 and Reply Br. 4-6).
6. Appellants do not dispute the Examiner's finding that one of ordinary skill in the art would have been able to readily envisage from the disclosure of Butcher forming four pinch-off lines (fusion lines) via employing a plurality of jaw members and tuck-in members to seal the bottom of a parison. (*Compare* Ans. 16, *with* App. Br. 15 and Reply Br. 6).
7. Appellants do not dispute the Examiner's finding that the length available to form the pinch off lines will never be greater than the circumference of the original tubular body (parison). (*Compare* Ans. 14 *with* App. Br. 15).
8. Appellants do not dispute the Examiner's determination that:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed bottles as recited by Butcher with inner, middle and exterior layers of selected from PET, PEN, virgin polymer, recycled polymer,

polypropylene, polyethylene, ethylene vinyl alcohol and gas barrier layers as recited by Schmidt and claimed in claims 7-11. Although it is unclear what is meant by the inner layer having a lower compatibility with the outer layer recited in claim 12, it is presumed that since Schmidt recites that the inner and outer layers of the bottle recited by Schmidt can be composed of different polymers that the inside would have a lower compatibility with the outside layer than with itself. [(Compare Ans. 10 with App. Br. 9-15 and Reply Br. 4-6.)]

## PRINCIPLES OF LAW AND ANALYSIS

### 35 U.S.C. § 112, SECOND PARAGRAPH

The Examiner takes the position that the relative term “low compatibility” used in claim 12 in the context of an inner layer synthetic resin relative to an outer layer synthetic resin is indefinite (Ans. 5). According to the Examiner, the Specification does not provide a standard by which the scope of the term “low compatibility” is ascertained (*id.*). We disagree.

As stated in *Seattle Box Co., Inc. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984):

When a word of degree is used the district court must determine whether the patent’s specification provides some standard for measuring that degree. The trial court must decide, that is, whether one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification. [See also *M.P.E.P* § 2173.05(b) (Rev. 6, Sept. 2007)]

Here, as correctly pointed out by Appellants at pages 8 and 9 of the Appeal Brief, the Specification provides some standard by which the term “low compatibility” is determined. In particular, the Specification, at paragraph 0070, states:

Embodiment 8 of laminated molded article 9 is to constitute a laminated structure including: an outer layer 1a molded as an outer shell having a required ability for holding a self shape, and made of a synthetic resin material such as polyethylene, polypropylene, and PET; and an inner layer 1c molded into a bag shape capable of flexible deformation, and made of a synthetic resin material such as nylon, ethylene-vinyl[ ]alcohol copolymer and polyethylene terephthalate, which has a lower compatibility with the outer layer 1a; thereby allowing to provide a laminated peelable container.

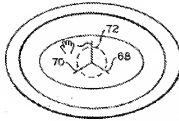
In other words, the Specification defines “low compatibility” between inner and outer layer synthetic resins in term of their peelability and exemplifies specific inner and outer layer synthetic resins exhibiting such peelable characteristic. Thus, we concur with Appellants that one of ordinary skill in the art would have readily ascertained from the standard or guidance provided at paragraph 0070 of the Specification the meaning or the scope of the term “low compatibility” recited in claim 12. On this record, the Examiner has not shown why one of ordinary skill in the art would not have understood what is claimed from the standard or guidance provided at paragraph 0070 of the Specification.

Accordingly, we reverse the Examiner’s decision rejecting claims 12 under 35 U.S.C. § 112, second paragraph, as being indefinite.

35 U.S.C. § 102

Butcher exemplifies a blow molded bottle having an oval-shaped bottom made from blowing a parison after its bottom was sealed with a three-way pinch-off using three alternate tuck-in members. There is no dispute that this blow molded bottle has a bottom portion, a cylindrical body portion arranged above the bottom portion, and a cylindrical mouth portion arranged above the body portion. According to Butcher, the oval-shaped

bottom has three fusion lines (three pinch-off lines) within a circle having a diameter of 2.4 centimeters which is slightly less than the original outside diameter of the parison. Butcher illustrates such oval shaped bottom as follows:



**FIG. 4**

Since Butcher teaches an exemplified parison having an outer diameter ( $D_p$ ) being slightly larger than a diameter of a circle representing exemplified three pinch-off (fusion) lines with the number of the fusion lines ( $n$ ) being 3, and  $\pi$ , a known circular constant, being approximately 3.14, we concur with the Examiner that Butcher's exemplified blow molded bottle bottom having three pinch-off lines necessarily possesses the characteristic defined by the equation  $\pi D_p/n$  equal to or greater than the diameter of the three fusion lines (pinch-off lines) recited in claim 1.

More importantly, Appellants do not dispute the Examiner's finding that one of ordinary skill in the art would have readily envisaged from the disclosure of Butcher forming three or four pinch-off lines (fusion lines) at the bottom of a bottle via employing a plurality of jaw members and tuck-in members to seal the bottom of a parison. Nor do Appellants dispute the Examiner's finding at page 14 of the Answer that the length available to form the pinch off lines will never be greater than the circumference of the

original tubular body (parison). In fact, Butcher teaches (col. 4, ll. 28-33) that:

It is noted that that the effect of the tuck-in blades is to restrict the total length of the fusion lines to *a comparatively small value* as compared with the total area of the bottom of the finished container.

Butcher also teaches (col. 2, ll. 29-40) that:

It is an object of this invention to form a blow molded article which is *more resistant to failure in the pinch-off area*. It is a further object of this invention to provide a multiple direction *pinch-off with shorter fusion lines*.

Thus, we concur with the Examiner that there is a reasonable basis to believe that Butcher's blow molded bottle bottom sealed with three or four *short* pinch-off lines possesses the characteristic defined by the claimed equation  $\pi D_p/n$  equal to or greater than the diameter of the four fusion lines (pinch-off lines). As stated in *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977):

Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. [citation omitted] Whether the rejection is based on "inherency" under 35 U.S.C. § 102, on "prima facie obviousness" under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products.

Nevertheless, Appellants, on this record, have not adequately explained or shown that Butcher's blow molded bottle bottom sealed with three or four pinch-off lines does not necessarily possess the characteristic defined by the

claimed equation  $\pi D_p/n$  equal to or greater than the diameter of the four pinch-off lines.

It follows that the Examiner's decision rejecting claims 1 through 3 and 5 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Butcher is affirmed.

35 U.S.C. § 103(a)

Appellants do not dispute the Examiner's determination at page 10 of the Answer that:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed bottles as recited by Butcher with inner, middle and exterior layers of selected from PET, PEN, virgin polymer, recycled polymer, polypropylene, polyethylene, ethylene vinyl alcohol and gas barrier layers as recited by Schmidt and claimed in claims 7-11. Although it is unclear what is meant by the inner layer having a lower compatibility with the outer layer recited in claim 12, it is presumed that since Schmidt recites that the inner and outer layers of the bottle recited by Schmidt can be composed of different polymers that the inside would have a lower compatibility with the outside layer than with itself.

Rather, Appellants advance the same arguments made in connection with the rejection of claim 1 under 35 U.S.C. § 102(b) discussed above.

Thus, for the same reasons set forth above and in the Answer, we affirm the Examiner's decision rejecting claims 6 through 12 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Butcher and Schmidt.

ORDER

In view of the foregoing, the decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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